



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/769,167	01/30/2004	Edwin A. Sisson	MGP.P.US0081	7783

7590

12/07/2005

Edwin A. Sisson, Manager of Intellectual Property  
M&G Polymers USA, LLC  
6951 Ridge Road  
P.O. Box 590  
Sharon Center, OH 44274-0590

EXAMINER

DOONER, CHARLES

ART UNIT

PAPER NUMBER

1772

DATE MAILED: 12/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/769,167

Applicant(s)

SISSON ET AL.

Examiner

Charles Dooner

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) 19-26 and 42-51 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 27-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-51 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/30/04 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-18 and 27-41, drawn to transparent article, classified in class 428, subclass 35.7.
- II. Claims 19-26 and 42-51, drawn to a process for the production of a transparent article, classified in class 264, subclass 177.2.

The inventions are distinct, each from the other because of the following reasons:

1. Inventions of Group II and Group I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the process can be used to make a material different product, such as a thermosetting instead of a thermoplastic.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. Edwin Sisson on November 7, 2005 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-18 and 27-41. Affirmation of this election must be made by applicant in

Art Unit: 1772

replying to this Office action. Claims 19-25 and 42-51 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: The reference character 17 is listed and described in the specifications but does not appear on any of the Figures in the Drawing sheets. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

3. Claims 17 and 18 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 17 states that the "domains range from about 550 nm to about 750 nm, " where previously the range as stated in Claim 1 only encompassed up to 720 nm.

Claim 18 refers to a multilayered container wherein claim 1 only refers to a single layered article.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 27 and 39-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The term X is not defined in regards to its meaning, units, or relationship with the claimed subject matter.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 1 recites the limitation "polyester matrix" in line 4. There is insufficient antecedent basis for this limitation in the claim. Previously the matrix was described as a thermoplastic polymer matrix.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 –10, 12-18, and 28-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (Pub. No. 2002/0001684) in view of Takeda et al. (Pub. No. 2002/0238885), Weaver et al (6,787,589), and Cahill et al. (6,506,463).

In regards to Claims 1, 4-10, 14-16, 30-35, and 38, Kim et al. (Pub. No. 2002/0001684) teaches a transparent article consisting of a thermoplastic polymer matrix, in this instance the linear polyester PET (Poly(ethylene terephthalate)) , (Page 3, Paragraph 28, Lines1-3) in which incompatible filler is dispersed (Page 3, Paragraph 28, Lines 6-8). In this instance the filler is MXD-6, which is poly(m-xylylene adipamide) as taught in Cahill et al. (6,506,463) (Column 2, Lines 9-11). The incompatible filler

Art Unit: 1772

material is oriented so the domains of the filler have dimensions up to the wavelength of light to reduce the scattering of light, or remove haze (paragraph 23, lines 12-16). Kim et al. (Pub. No. 2002/0001684) inherently teaches the claimed range of the dimensions of the domains in the axial plane within a range of about 380 nm to about 720 nm since Kim et al. (Pub. No. 2002/0001684) teaches that the MXD-6 domains increases in size up to less than the wavelength of light (Page 2, Paragraph 23, Lines 15-16). Kim also teaches that xylylene-group containing polymers enhance the gas barrier of the article (Page 1, Paragraph 9, Lines 1-3). It is further taught that MXD6 is the preferred such polymer (Page 2, Paragraph 11, Lines 5-7).

Takeda et al. (Pub. No. 2002/0238885), however, teaches that it is of interest to have the measured haze value of the article lowered or only raised slightly when adding a visible light absorbent filler for the purpose of maintaining its clarity and transparency (translucency) (Page 2, Paragraph 13, lines 1-7).

Weaver et al (6,787,589) also teaches that light absorbent compositions can be added to the matrix since a plurality of colorants may be copolymerized into the polyester(Column 1, Lines 10-15). It is well known in the art that colorants and pigments are equivalent.

It would have been obvious to one of ordinary skill at the time the invention was made to modify the article of Kim et al. (Pub. No. 2002/0001684) by adding a visible light absorbent filler since Weaver et al. (6,787,589) teaches that a plurality of colorants may be copolymerized into the polyester in order to improve the haze reduction as taught by Takeda (Pub. No. 2002/0238885).

With regards to Claims 2-3 and 28-29, Kim et al. (Pub. No. 2002/0001684) further teaches the use of the transparent article for use as a container or bottle (Page 3, Paragraph 30, Lines 7-9).

With regards to Claims 12-13 and 36-37, Kim et al. (Pub. No. 2002/0001684) further teaches that the polyethylene terephthalate is blended with up to 30 weight percent of a xylylene-group containing polyamide (paragraph 28, line 1-4). It further says that the preferred xylylene polyamide is MXD6, which is poly(m-xylylene adipamide). Weaver et al. (6,787,589) teaches the use of .5 to 30 weight percent of a light absorbent filler (Claim 20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the amount of incompatible filler that results in an article with improved haze to cover the .5 to 50 range of the instant invention.

With regard to Claim 16, Weaver et al. (6,787,589) also teaches the use of red colorants that absorb in the range of 450nm to 555nm (Column 9, Lines 53-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a red colorant so that the composition absorbs light of wavelengths that substantially cover the same range of the domains for the purpose of reducing the haze of the article.

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (Pub. No. 2002/0001684) in view of Takeda et al. (Pub. No. 2002/0238885), Weaver et al. (6,787,589), and Cahill et al. (6,506,463) as applied to claim 4 above, and further in view of Bagrodia et al. (6,737,464). Kim et al. (Pub. No. 2002/0001684) in view of



Art Unit: 1772

Takeda et al. (Pub. No. 2005/0238885) and Weaver et al (6,787,589) et al. fails to teach the use of clay as the incompatible filler or a polyamide as the matrix.

Bagrodia et al. (6,737,464) teaches the use of poly(m-xylylene adipamide) as the matrix material and layered clay as a filler for the purpose of producing a lower haze polymer article (Column 1, Lines 9-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a clay material as the incompatible filler in a polyamide as the matrix in the transparent article of Kim et al. (Pub. No. 2002/0001684) in view of Takeda et al. (Pub. No. 2002/0238885), Weaver et al (6,787,589), and Cahill et al. (6,506,463) since Bagrodia et al (6,737,464) teaches that these polymer clay nano-composites are well known in the art to achieve low haze transparent articles (Col. 1, Lines 13-14)

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Dooner whose telephone number is (571) 272-1646. The examiner can normally be reached on Monday-Friday from 9:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1772

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 12/5/05  
Charles Dooner  
Patent Examiner

  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
1172 12/5/05